188,068



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FIRST NAMED INVENTOR SERIAL NUMBER FILING DATE ATTORNEY DOCKET NO. 08/188.068 01/26/94 CHEN EXAMINER MOISE, E 23M1/0902 ART UNIT PAPER NUMBER RICHARD P. BERG LADAS & PARRY 5670 WILSHIRE BOULEVARD SUITE #2100 2386 LOS ANGELES, CA 90036-5679 DATE MAILED: 09/02/94 This is a communication from the examiner in charge of your application. COMMISSIONER OF PATENTS AND TRADEMARKS This application has been examined Responsive to communication filed on This action is made final. A shortened statutory period for response to this action is set to expire \_\_\_\_\_\_\_ month(s), \_\_\_\_\_\_ days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133 Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION: 1. Notice of References Cited by Examiner, PTO-892. 2. Notice of Draftsman's Patent Drawing Review, PTO-948. 4. Notice of Informal Patent Application, PTO-152. 3. Notice of Art Cited by Applicant, PTO-1449. 5. Information on How to Effect Drawing Changes, PTO-1474... Part II SUMMARY OF ACTION are pending in the application. 3. Claims 5. Claims are subject to restriction or election requirement. 7. This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes. 8. Formal drawings are required in response to this Office action. 9. The corrected or substitute drawings have been received on \_\_\_\_ . Under 37 C.F.R. 1.84 these drawings are acceptable; not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948). 10. The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_ \_\_. has (have) been approved by the examiner; disapproved by the examiner (see explanation). 11. The proposed drawing correction, filed \_\_\_\_\_ \_\_\_\_\_, has been approved; disapproved (see explanation). 12. Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has Deen received not been received been filed in parent application, serial no. \_\_\_\_\_\_; filed on \_\_\_\_\_\_ 13. Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213. 14. Other

EXAMINER'S ACTION



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Art Unit: 2306

- 1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 C.F.R. § 1.81.
- 2. The disclosure is objected to because of the following informalities: On page 4, line 23, "s" should be deleted in "retains". On page 5, line 8, "are" should be replaced with "is". On page 10, line 16, applicant is requested to check the result (-0110110) of the subtraction (erroneous bits underlined by examiner). Appropriate correction is required.
- 3. Claims 1 and 2 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, in lines 17 and 18 (steps f and g), "setting  $a_i$ " lacks a proper antecedent basis since " $a_i$ " was not previously defined;

in line 23 (step k), "said" should apparently be deleted.

In claim 2, in  $\lim_{\epsilon \to 0} \int_0^{\epsilon} 21$  and 22 (steps g and h), "setting  $a_i$ " lacks a proper anteced basis;

in line 26, (step : said" should apparently be deleted.



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## 4. 35 U.S.C. 101 reads as follows:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

Claims 1 and 2 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in the two-step test given by <u>In re Freeman</u> 197 USPQ 464 (CCPA 1980), as modified by <u>In re Walter</u> 205 USPQ 397 (CCPA 1982) and <u>In re Abele</u> 214 USPQ 682 (CCPA 1982). See In re Meyer 215 USPQ 193, 198 (CCPA 1982).

Consonant with these decisions, a determination as to whether or not the claim directly or indirectly recites a mathematical algorithm must be made. As is readily apparent from a reading of the claims on appeal, the steps of:

- . aligning ...
- . defining ...
- . subtracting ...
- . setting ...
- . inverting ...
- . shift ...
- . adding ...

directlty recite a mathematical algorithm (see specification, pages 6-8).



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A statutory claim should recite an automated machine implemented method. Computer elements that perform each of the steps should be explicitly recited. In other words, the claims should be tied into a specific structural device.

Once the first step of the <u>Freeman-Walter-Abele</u> is met, the claims as a whole must be analyzed as to whether or not they preempt the algorithm. See In re Abele 214 USPQ 682, 685 (CCPA 1982). In order to make this determination, the claims should be viewed without the mathematical algorithm to determine if what remains is otherwise statutory, see <u>In re Abele</u> 214 USPQ 682, 686 and <u>In re Grams</u> 12 USPQ 2d 1824, 1827. Rewriting claims 1 and 2 without the mathematical steps yields a non-statutory subject matter.

Taking each claim as a whole we have a field of use limitation at line 1 of claims 1 and 2.

The language "In a system for digital information process" in the preamble of claims 1 and 2 does not transform the claimed subject matter into statutory subject matter. The recital is merely a field of use or desired end use limitation.

A mathematical algorithm is not made statutory by "attempting to limit the use of the formula to a particular technological environment." Diehr, 450 U.S. at 191, 209 USPQ at 10. Thus, "field of use" limitations in the claim preamble are insufficient to constitute a statutory process.

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It is readily apparent that when claims 1 and 2 are taken as a whole, the claims are directed to the preemption of a mathematical algorithm and thus are non-statutory.

5. The prior art made of record, although not applied against the claims, is considered relevant in showing systems that are apparently related to the claimed invention.

Nash et al. (5,012,439)

Miyoshi (4,891,780)

Davidian (5,297,073)

Takahashi (5,097,435)

Fettweis et al. (5,341,322)

inquiry concerning this communication communications from the examiner should be directed to Emmanuel Moise whose telephone number is (703) 305-9763.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.

EM

Emmanuel Moise

August 26, 1994

Supervisory Patent Examiner

Group 2300